

Lake Tahoe Water Quality Crediting Program

Accounting for NPS Improvements

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Overview

- Tahoe & Project Setting
- Credit & Program Characteristics
- Credit Uses
- Innovations for NPS Programs

Tahoe Setting

Physical



Tahoe Setting

Physical

- Lake Clarity TMDL
- Ultra Fine Sediment Pollutant of Concern
- Lake Responds within Years NOT Decades
- Urban Sources Dominate





Tahoe Setting Policy

- \$1 billion Environmental Improvement Program
 - 50% focus on water quality
- Municipal Stormwater NPDES Permit
 - Includes concentration effluent limits
- Science-based Policy



Tahoe Setting

Water Quality Crediting & Trading Project

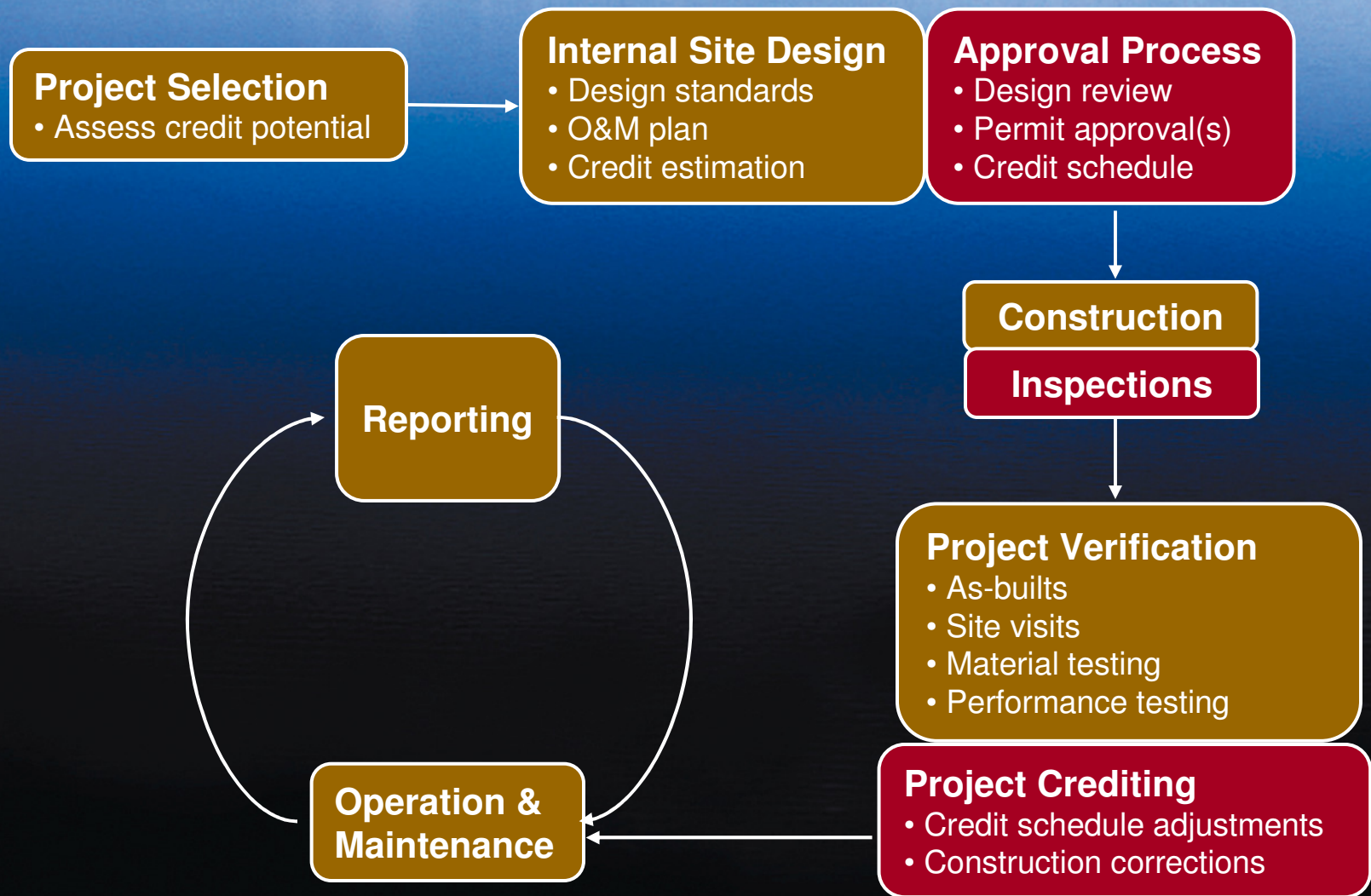
- Part of TMDL Development
 - In-lake process
 - Integrated Water Quality Management Strategy
 - Implementation Plan
- Targeted Watershed Management Grant from EPA
- Crediting Program Purposes
 - Motivate action & effectiveness to improve water quality
 - Increase flexibility for and cooperation between permitted entities

Water Quality Credit

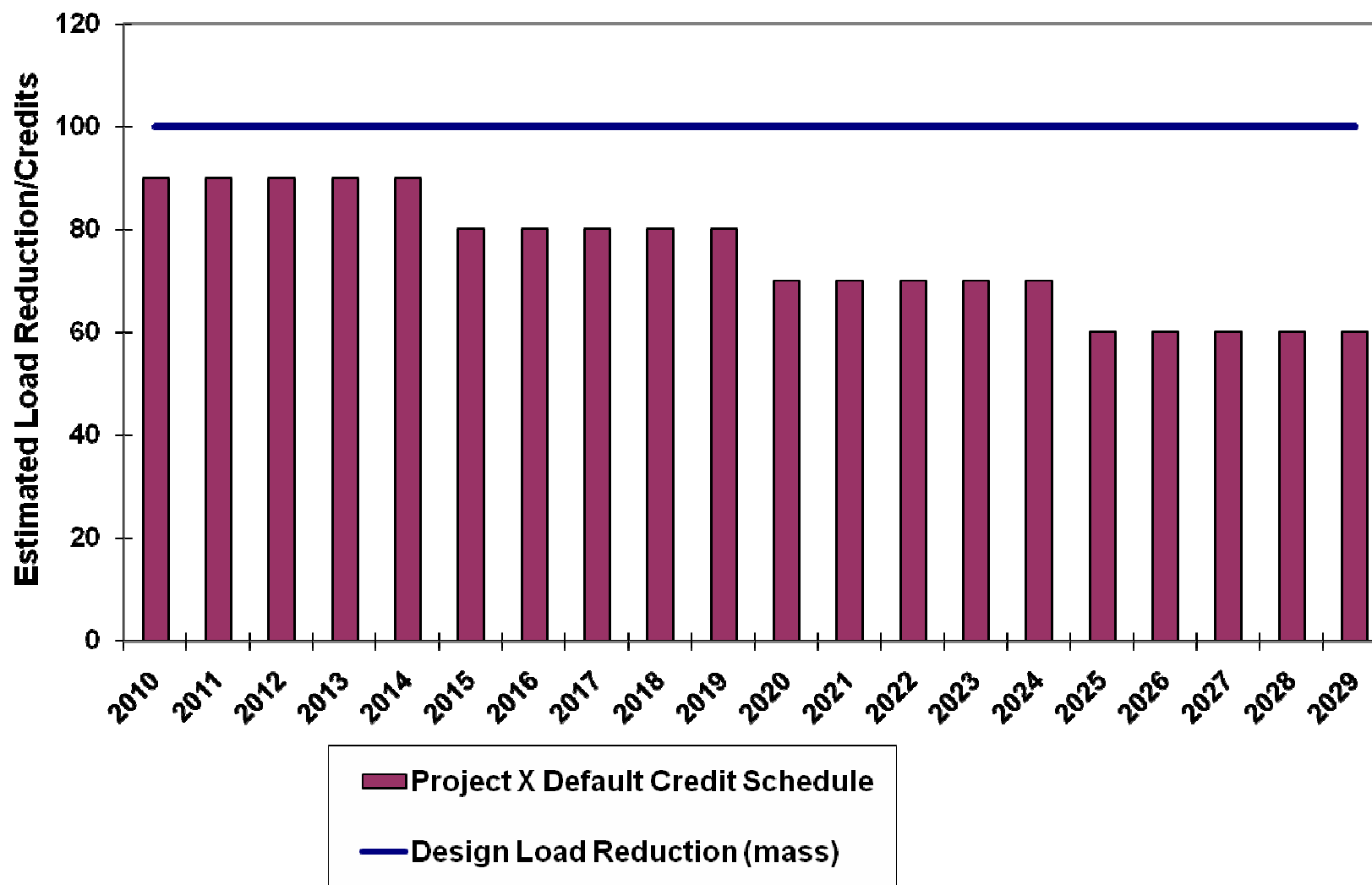
Credit Characteristics

- $\text{Water Quality Credit} = \text{FS}_{\text{LR}} + N_{\text{LR}} * N_{\text{mult}} + P_{\text{LR}} * P_{\text{mult}}$
- Annual Accounting Period
- Requires Operations & Maintenance
- Share Risk of Uncertainty
- Basis for Monitoring & Adaptive Management

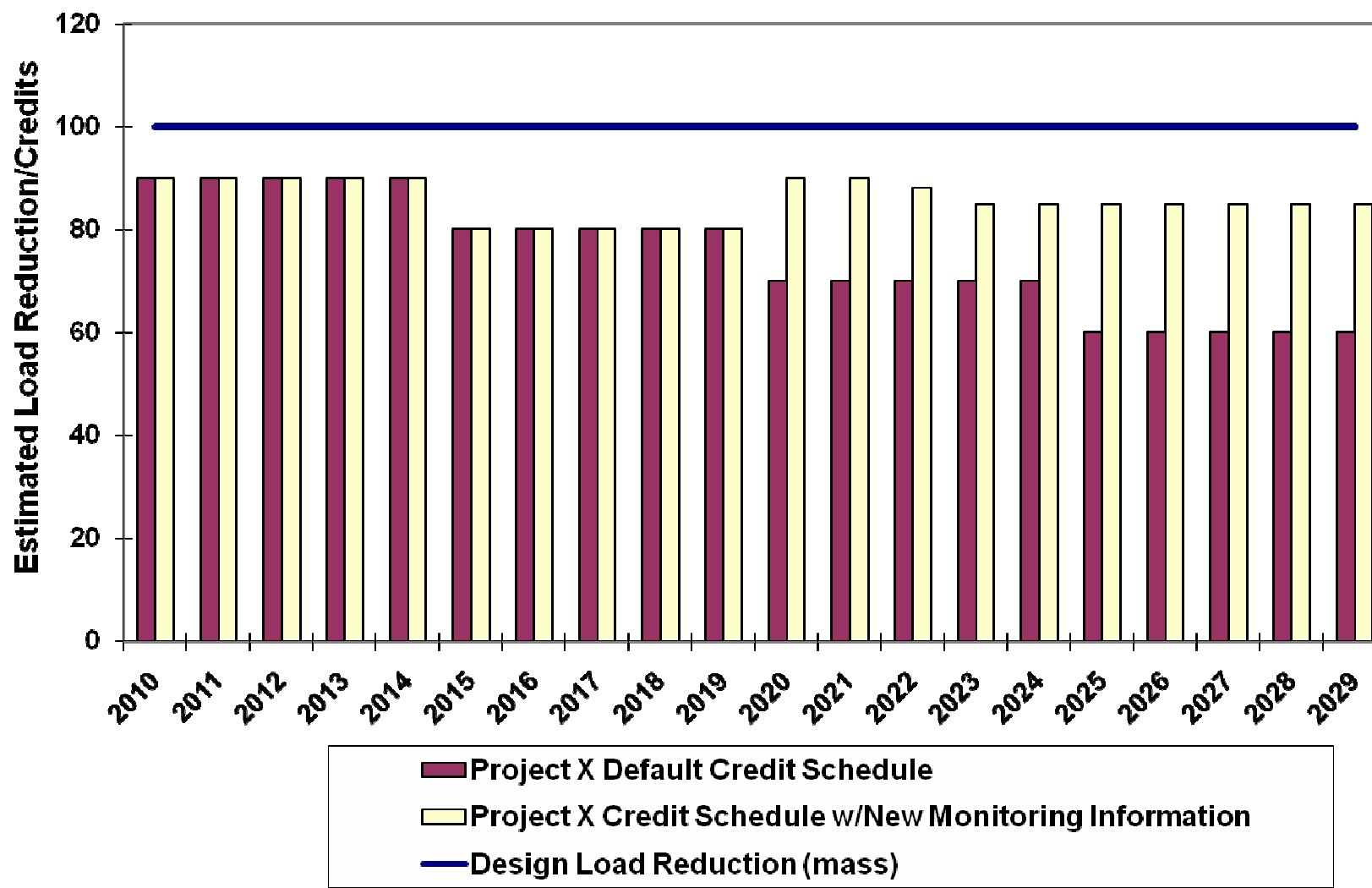
Site Level Crediting

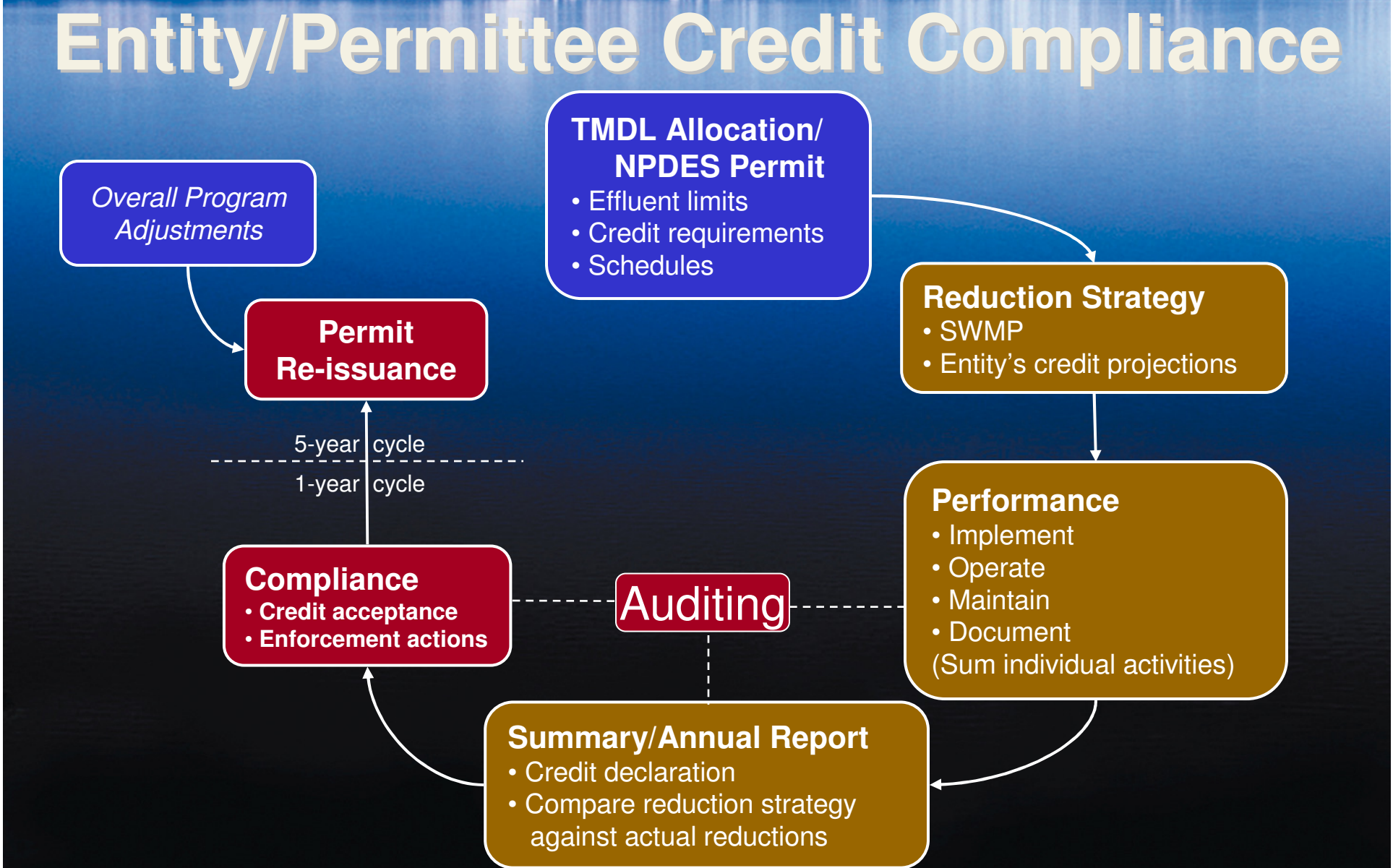


Credit Schedule for Typical 20 year Lifespan Project
Assumes Proper O&M
Illustrates Increasing Discount for Potential Effectiveness Loss with Project Age

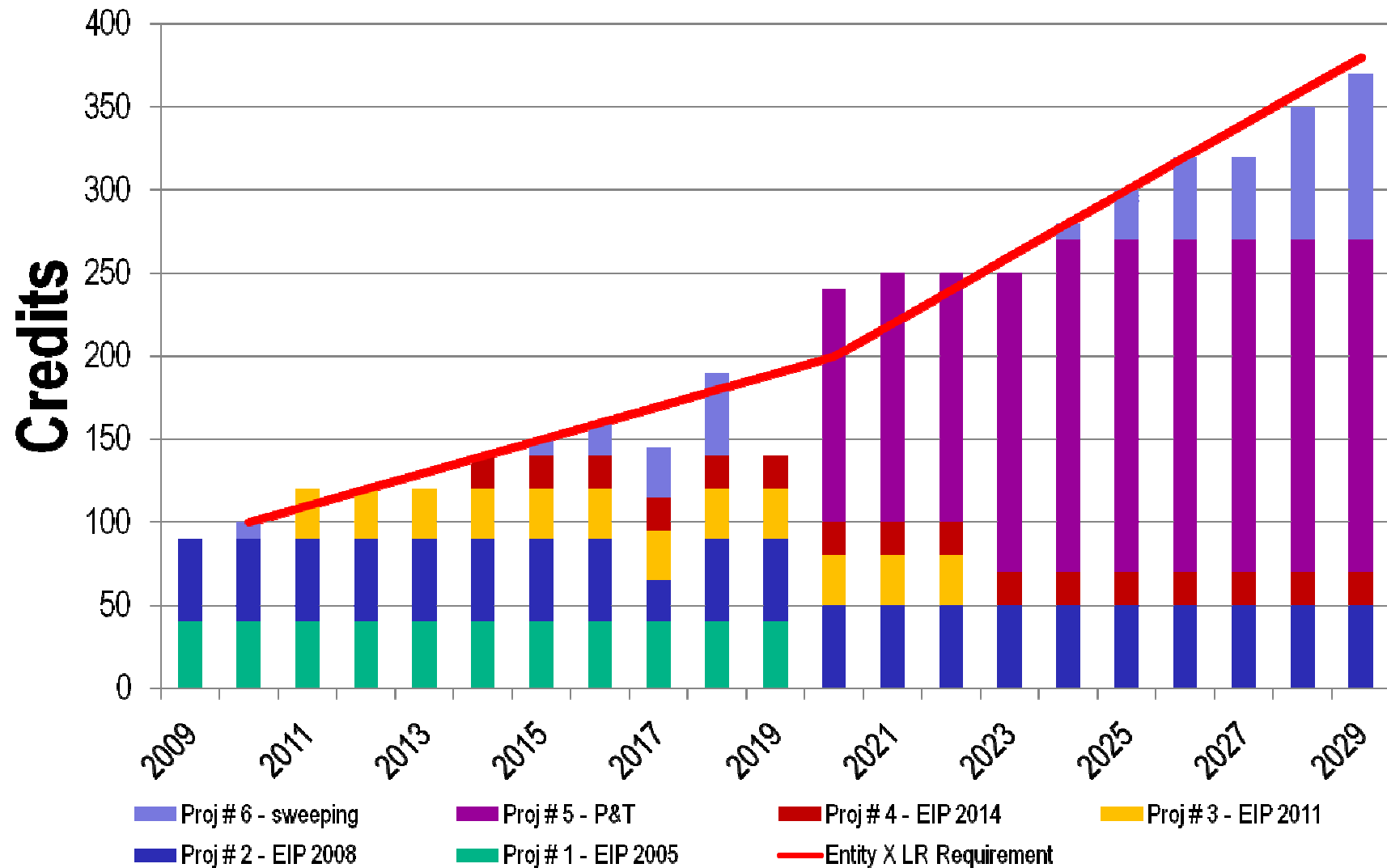


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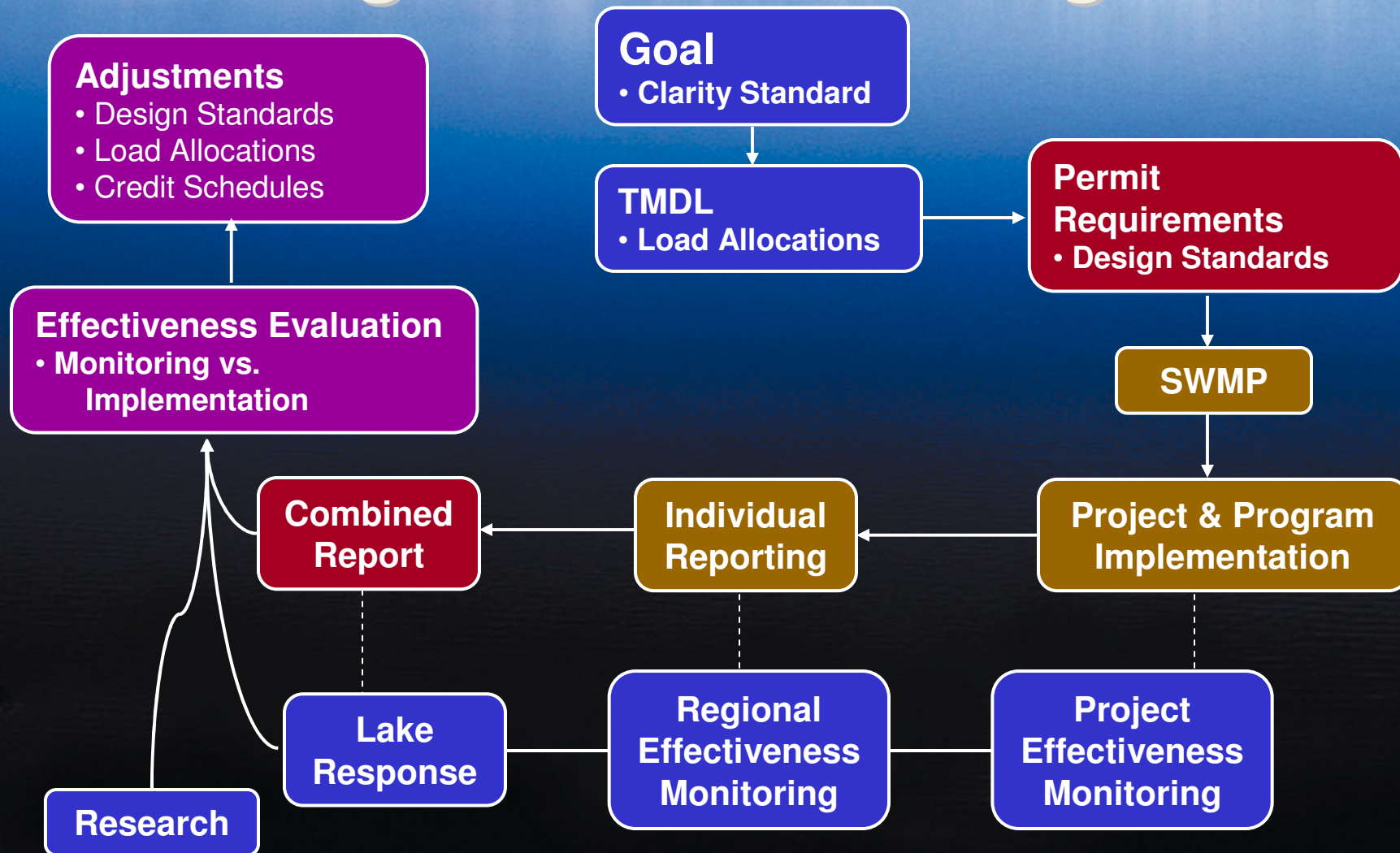




Credits Generated Each Year By Entity X Showing Credits for Each Project



Program Level Management





Water Quality Credit

2-Sided Accounting & Tracking

Credit Accounting

- Fixed Credit Schedules
- Predictable with Completed & Planned Actions
- Basis for Permit Compliance
- Adjustments Made for Future Milestones

Load Reduction Tracking

- Initial Estimate of Expected Load Reduction
- Reflects Best Available Information = Changes with New Science
- Basis for Overall TMDL Implementation Tracking
- Urban & Non-urban Reduction Tracking

Water Quality Credit Uses



Water Quality Crediting & Trading Innovations for NPS Programs

- Credits Define What You Want
 - Credit, Performance Measure, Unit of Benefit...
 - Define how to get it & relate to what other's want
- Credits Drive Transparency
 - Commit to reporting as normal operations
 - Align internal & external business practices
- Credits Enable Clear Reporting to Maintain Support
 - Funders need results - legislators & tax payers
 - Those who show results are trusted
- Credits Are Basis for Flexible, Trading, Offset & Ecosystem Service-Based Policies

Backup Slides

Strategic Levels of Program Detail

Site Level

Design Worksheet Elements
Design Standards Options
Site Application Process
Credit Schedule
Inspection Checklists
Project Verification
Credit Award
O&M Worksheets
Reporting
Training

Entity/Permittee

Compliance Milestones
Effluent Limits
Reduction Strategy
Performance Documentation
Credit Declaration
Reporting (Tracking)
Enforcement
Permit Re-issuance

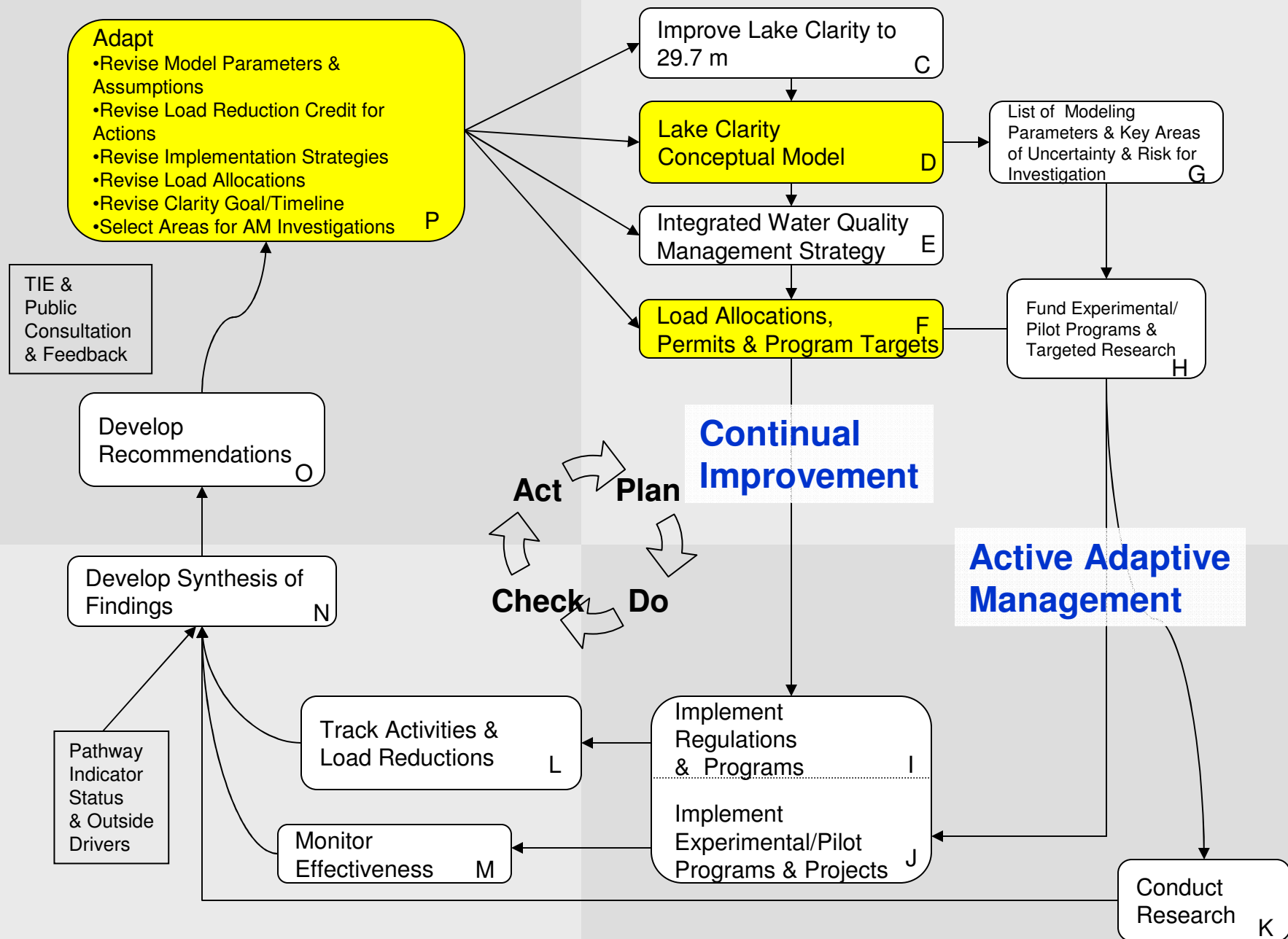
Program Management

TMDLs & Permits
Schedules
Credit Definition
Credit Calculation
Adaptive Management
Cumulative Tracking
Registry Outline
Monitoring
Reporting

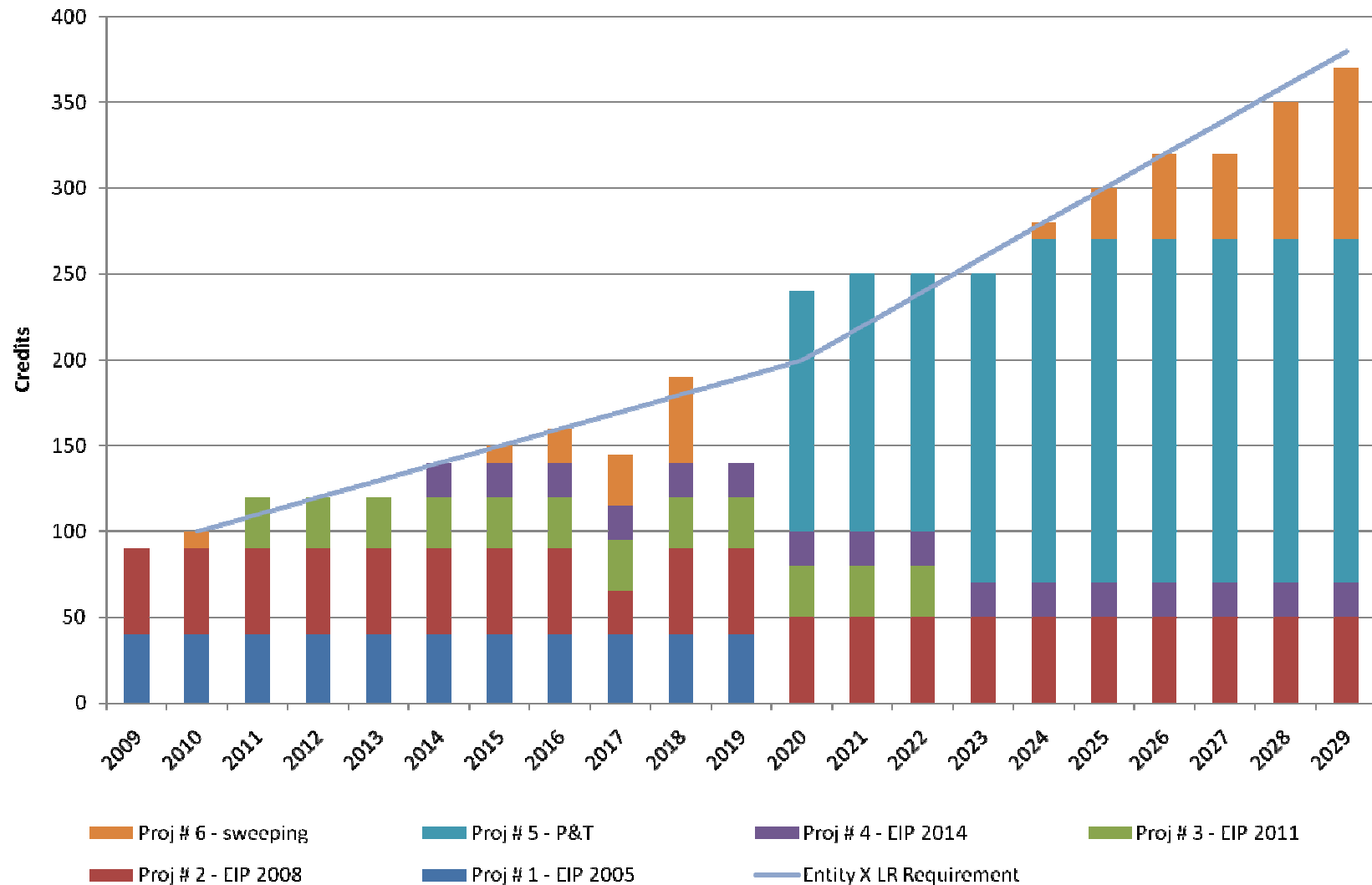
Program Purposes

- Primary Purposes
 - Motivate actions to improve water quality
 - Increase pace of achieving load reductions
 - Track permit compliance
 - Track progress towards meeting load reduction milestones
 - Reduce resistance to passage of the TMDL and increase acceptance of load allocations
 - Provide flexibility to public entities
- Potential Secondary Purposes
 - Enable additional development through a defined means to offset impacts

Lake Tahoe TMDL Management System



Credits Generated Each Year By Entity X Showing Credits for Each Project



Credits Generated Each Year for All Urban Entities

